# Panasonic

## Operating Instructions

Colour Television

# TX–28X1DP
# TX–25X1DP

(U.K. Standard)

DOLBY SURROUND
PRO • LOGIC

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ufactured under license from Dolby Laboratories Licensing Corporation.

Please read these instructions completely before operating this set and retain them for future reference.

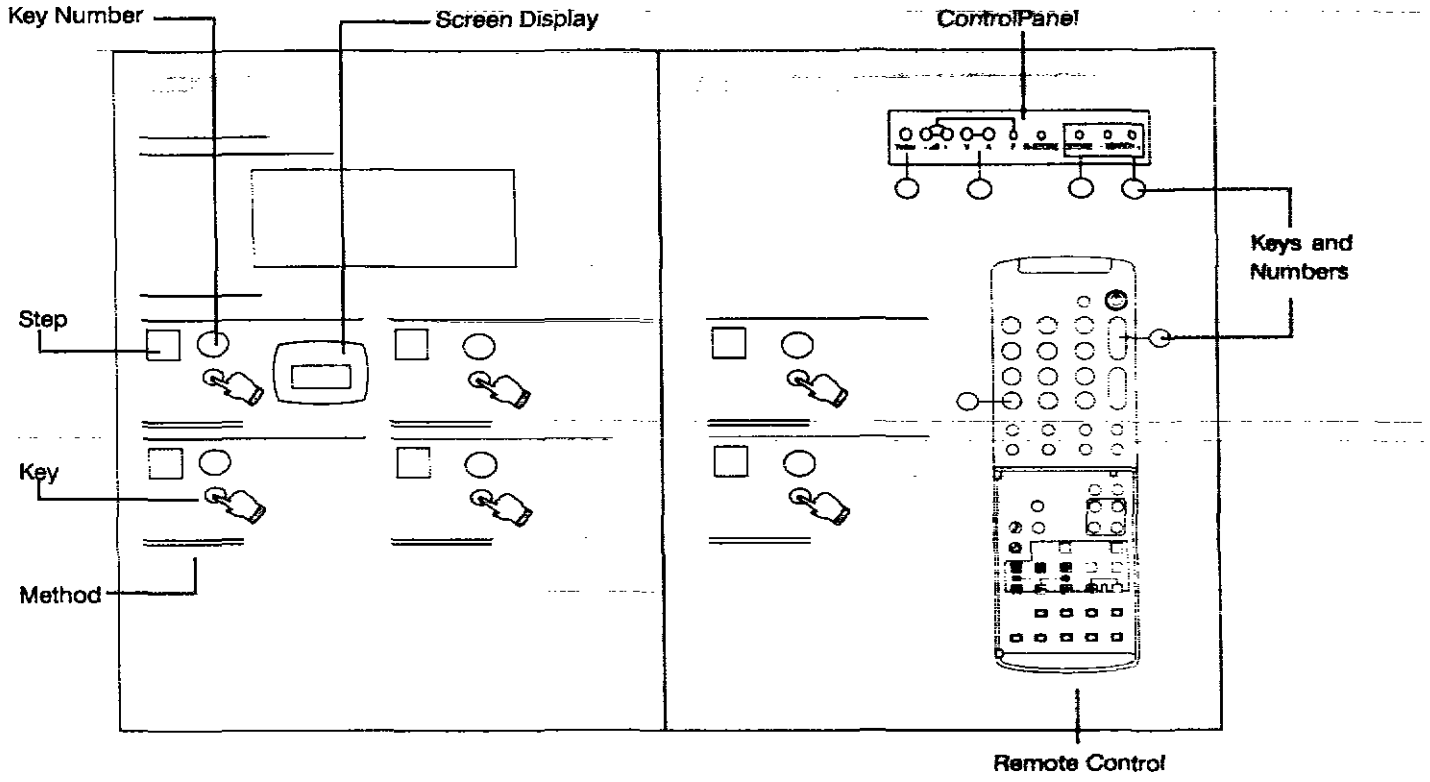
QRRF0R40

Dear Panasonic Customer

Welcome to the Panasonic family of customers. We hope that you have many years of enjoyment from your new colour television. This is a very sophisticated TV; the best way to understand the features is to read this book thoroughly, before operating the set.

## How to use these Operating Instructions

These Operating Instructions are laid out as shown below, please study the layout before proceeding any further.



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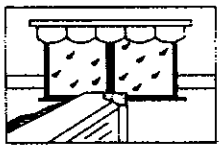
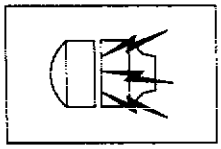
## Warnings and Precautions

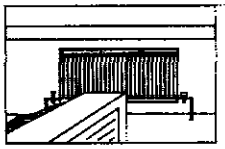
This TV set is designed to operate on A.C. 220V–240V, 50Hz.



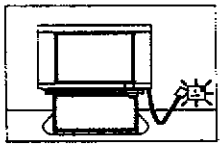
To prevent damage which might result in electric shock or fire, do not expose this TV set to rain or excessive moisture.



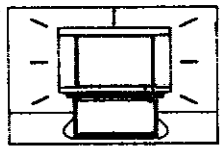
**WARNING: HIGH VOLTAGE !!!**
Do not remove the rear cover as live parts are accessible when it is removed. There are no user serviceable parts inside.



Avoid exposing the TV set to direct sunlight and other sources of heat.

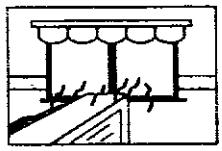


Remove the mains plug from the wall socket when the TV set is not used for a prolonged period of time.



**CABINET AND PICTURE TUBE CARE**
Remove the mains plug from the wall socket. The cabinet and picture tube can be cleaned with a soft cloth moistened with mild detergent and water. Do not use solutions containing benzol or petroleum. TV sets can produce static electricity, care must be taken whenever touching the TV screen.

**SPEAKER GRILLE CARE**
Remove dust with a vacuum cleaner after attaching a brush adaptor. Do not let the vacuum cleaner pipe come into direct contact with the speaker (without the adaptor). Do not use any cleaning fluids or liquids on the speaker grilles.
Care must be taken with the speaker grilles as they are easily pierced by sharp objects.



Adequate ventilation is essential to prevent failure of electrical components.

**FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY**
This appliance is supplied with a fitted three pin mains plug for your safety and convenience. A 5 amp fuse is fitted in this plug. If the fuse is replaced then the replacement fuse must be 5 amp rated and should be approved by ASTA or BSI to BS1362.

Check for the ASTA mark or the BSI mark on the body of the fuse.

If the fitted plug has a removable fuse cover you must ensure that it is refitted when the fuse is replaced. If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

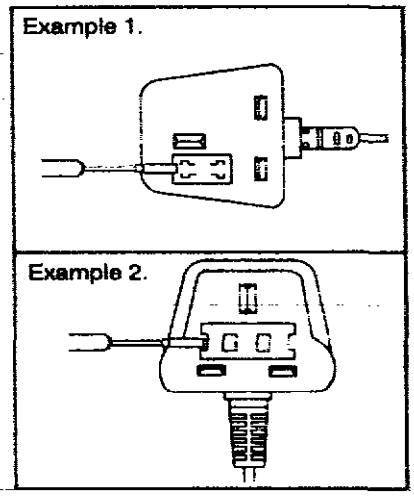
Replacement fuse covers can be purchased through your local Panasonic dealer.

**If the fitted plug is unsuitable for the socket outlet in your home then the fuse should be removed and the plug cut off and disposed of safely. There is danger of severe electrical shock if the cut off plug is inserted into any 13 amp socket.**

If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

**How to replace the fuse (for plug type shown in example 1)** :
Lift open the fuse compartment, in the mains plug, with a screwdriver, and replace the fuse, then press the fuse cover down securely. (See example 1).

**How to replace the fuse (for plug type shown in example 2)** :
Lift out the removable fuse compartment with a screwdriver and replace the fuse, then refit securely into the mains plug (See example 2).




**IMPORTANT :–** The wires in the mains lead of this appliance are coloured in accordance with the following code :–

**BLUE : NEUTRAL** **BROWN : LIVE**

As the colours of the wires in the mains lead of this appliance may not correspond to the markings identifying the terminals in your plug, proceed as follows :–

1. The **BLUE** wire must be connected to the terminal marked 'N' or coloured black.
2. The **BROWN** wire must be connected to the terminal marked 'L' or coloured red.

**IMPORTANT NOTE :** Under no circumstances should either of these wires be connected to the Earth terminal of the three pin plug, marked with the letter 'E' or the earth symbol.

## Features

**Dolby Pro Logic Surround**

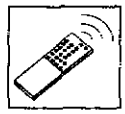
**AV In / Out (Rear)**
**AV In (Front)**

**NICAM Stereo Sound System**

**S–Video Input**

**FASTEXT Teletext**

**Multi–function Remote Control**
**(TV / Teletext / VCR (Panasonic))**

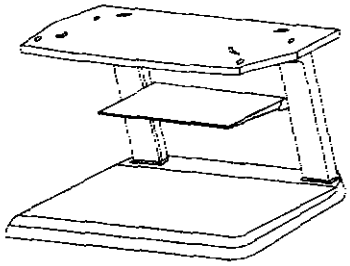


**On Screen Displays**

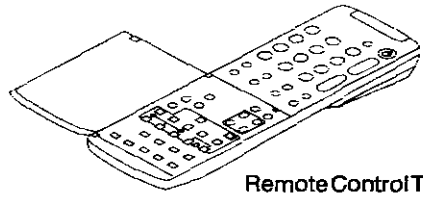
**51 Position Tuning System**
**(1 – 50 plus VCR)**

## Accessories

Check and identify the supplied accessories before setting up this T.V. set.

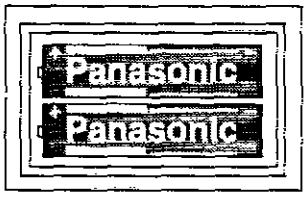


TV. Stand
TX–28X1DP – TS2730
TX–25X1DP – TS2720
(Assembly Instructions are included in stand packaging)



Remote Control Transmitter
(TNQ8E0454)

Batteries for the Remote Control Transmitter.
(2 x R6 (UM3) size)

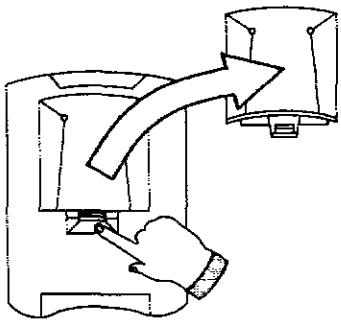



External Speakers Package (TS–100DP)
Consisting of :
2 x Front Speakers
2 x 5 metre Speaker Cables for the Front Speakers
2 x Rear Speakers
2 x 12 metre Speaker Cables for the Rear Speakers

## Battery Installation and Replacement

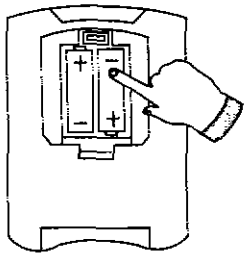
**Batteries : Use two R6 (UM3) dry cells (supplied).**

**A**



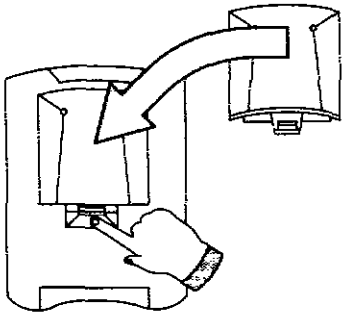
Remove the remote control battery compartment lid by prising it upwards.

**B**



Insert the batteries correctly observing the polarities (+) and (−).

**C**



Replace the cover.

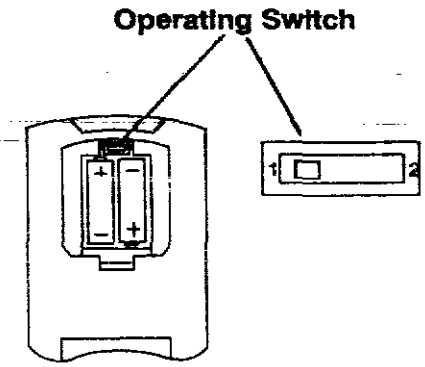
### Important Note

If experiencing any remote control malfunctions or reduction in operating distance please check and replace batteries and clean indicator window.

### Precautions

1. Do not use an old battery with a new one.
2. Ensure the batteries are inserted with the correct polarity.
3. Do not use rechargeable (Ni−Cad) batteries.
4. Do not mix battery types, i.e. Alkaline and Manganese.
5. Remove flat batteries and dispose of them immediately.

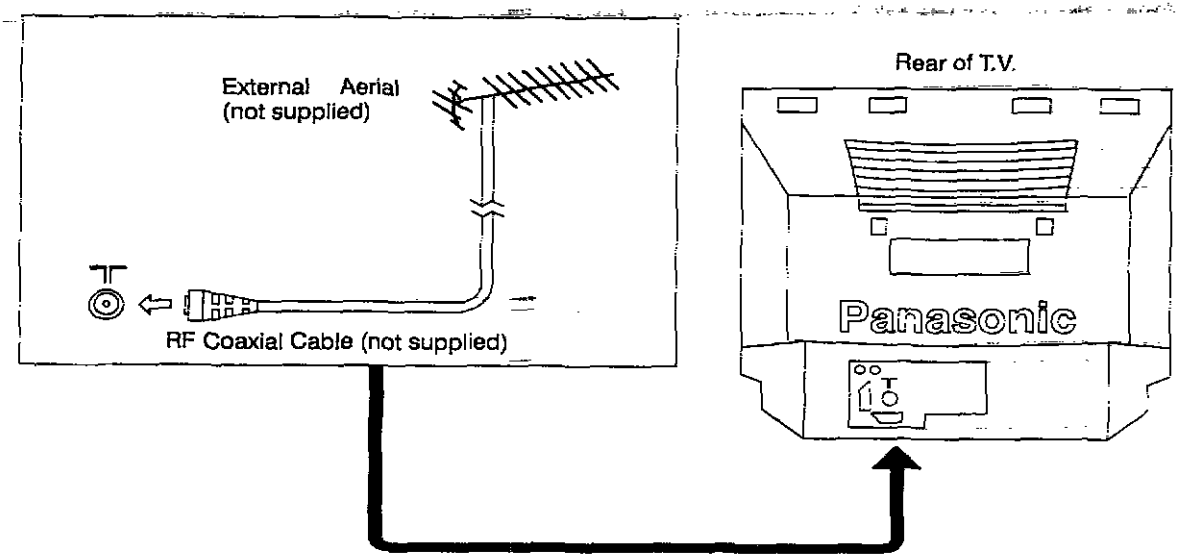
### Operating Switch




If any difficulty is encountered when using this remote control with Panasonic video tape recorders please check the operation of the video recorder with the operating switch set at position one and again with the switch set at position two.

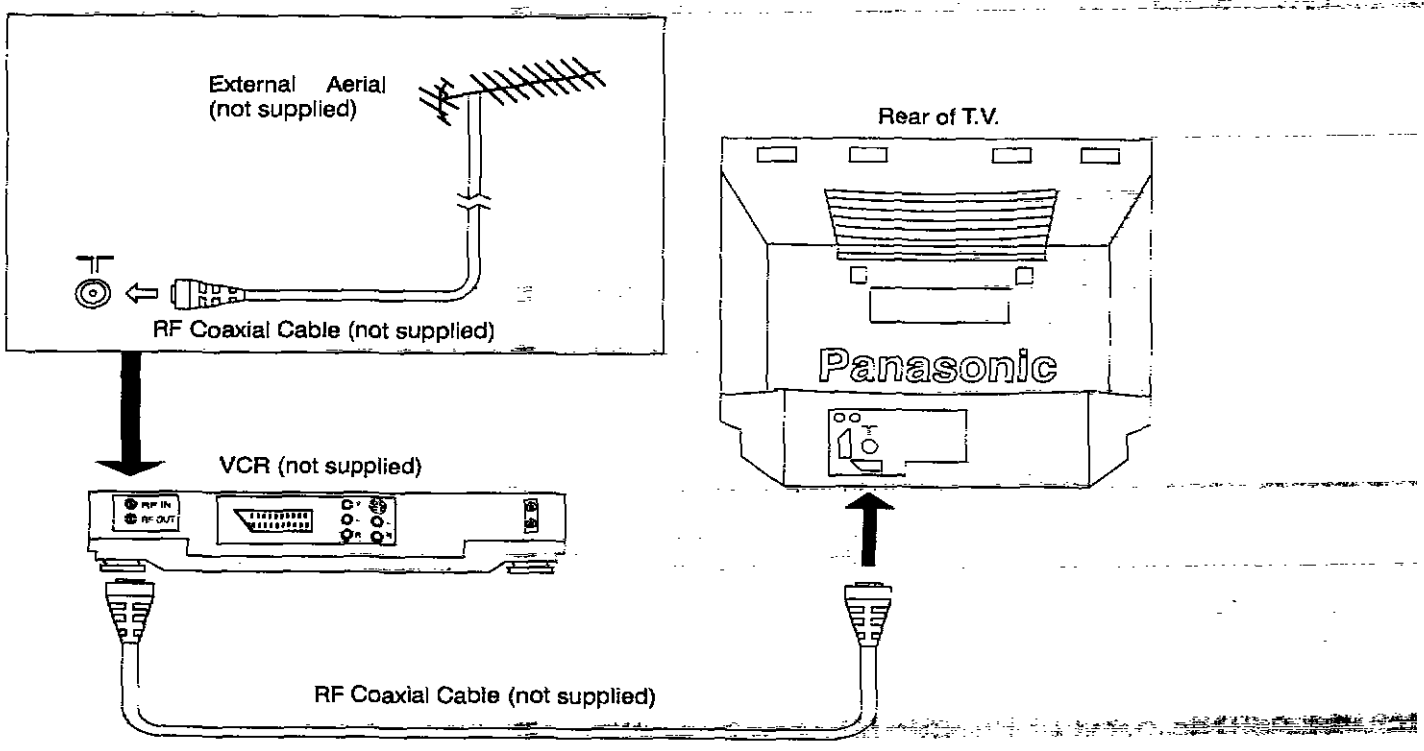
## Connecting the aerial

Connect your Aerial to the RF IN socket at the rear of the TV.




## Connecting the aerial via a Video Recorder

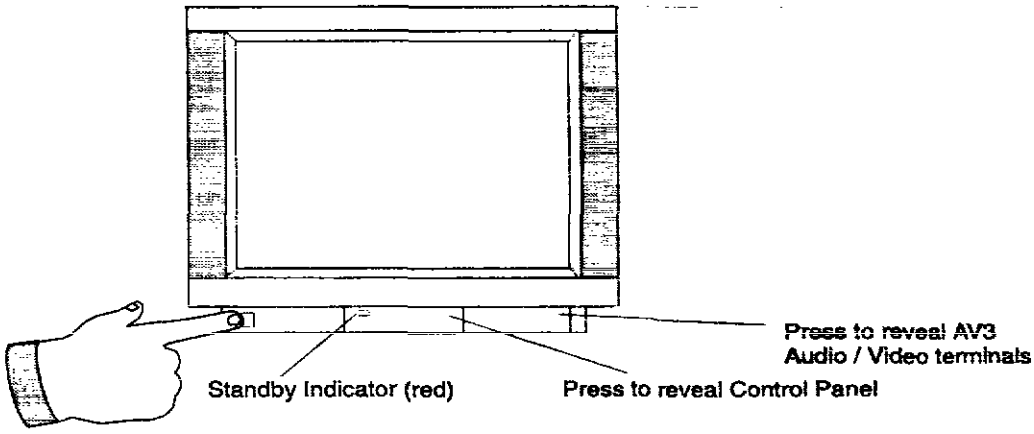
Connect your Aerial to the RF IN socket at the rear of the VCR. Connect an RF coaxial cable between the VCR RF OUT socket and the TV RF IN socket.




**Note :** For information on how to connect a VCR to this TV using Audio / Video cables refer to pages 24 and 25.

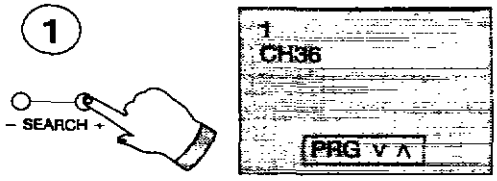
## Switching the TV on / off

To switch ON or OFF press the Power on / off button on the front of the TV.
If the power to this TV is interrupted whilst it is switched on, when power is returned the TV will automatically switch back on.



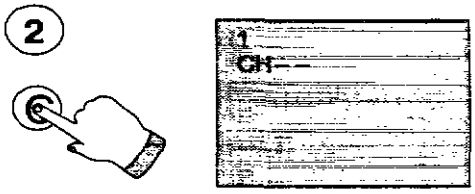

## *Tuning–In the channels*

**A**



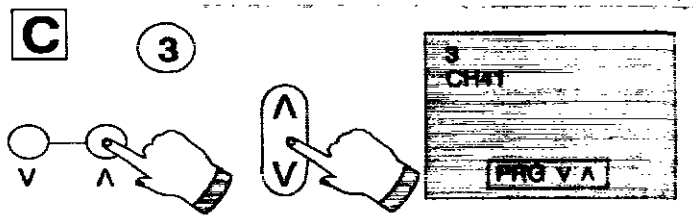

**If the local channel numbers are known proceed to step B.**
Press SEARCH up or down buttons until the desired channel is on screen.
**Now proceed to step C.**
**Note :** If the channel received has a weak signal, it is advisable to continue tuning until a stronger signal is received.

**B**



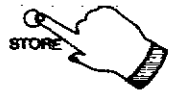

**Only use this step if the local channel numbers are known.**
Press the 'C' key, on the remote control.
Input the channel number as two digits using the numeric keys within six seconds. (e.g. for channel 25 press 2 and 5).
The screen will display the channel.

**C**



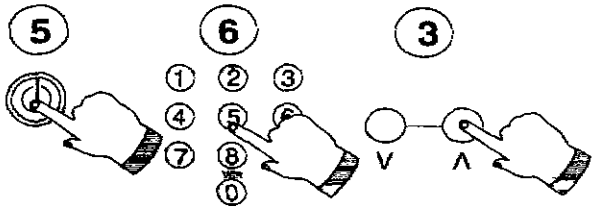

Press programme up/down to select the programme position on which to store the channel.
**Note :**
When tuning the TV into a VCR, position '0' should be selected.

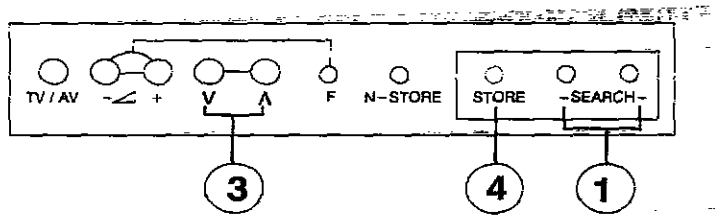
**D**




Press the STORE button to store the channel.
*The display will flash.*
**Repeat steps A – D to store other channels if desired.**

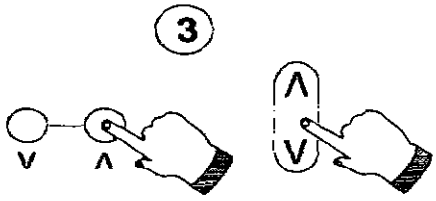
## Standby mode



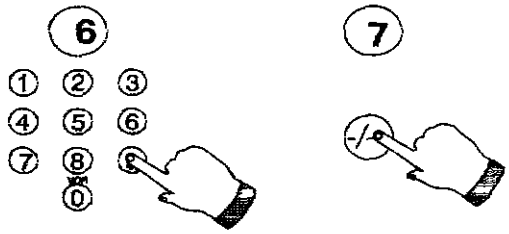

Press to switch the TV. off for a period of time.
To switch back on perform one of the following :
1. Press Standby again.
2. Select a programme position from 0 – 9 on the remote control.
3. Press programme Up / Down on the TV.
**Note :** If the TV. is in Standby mode it is not possible to switch it back on using the Power switch (located at the front of the TV.).

## Programme Position Selection

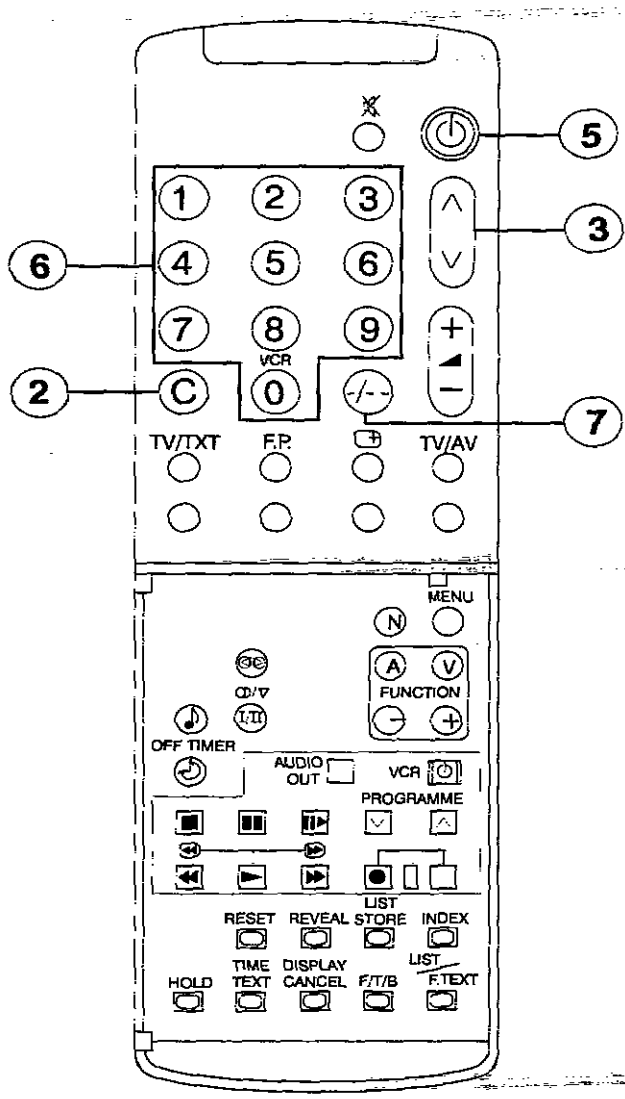



Press to change programme position by one.

**OR**

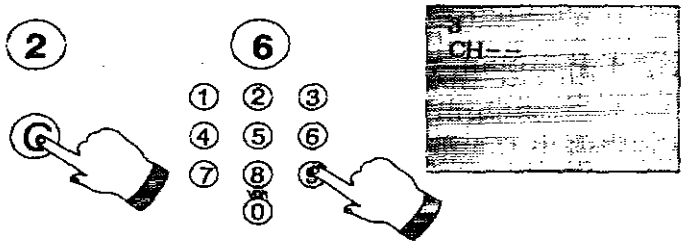



To select a programme between 0 – 9 press numeric key once.
To select a programme position between 10 – 50 press the –/– – key followed by the numbers required.




## Direct Channel Access

If the local channel numbers are known, they may be accessed directly using the following method.

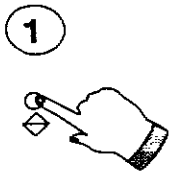



Press the 'C' key.
Press the numeric keys within five seconds. (e.g. for channel 5 press 0 and 5).
The screen will display the channel.
**Note :** The channel is not memorised unless STORE is pressed.

## Operation of Controls

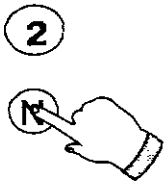
**Note:** Certain functions will display a coloured bar on screen for a short period of time.

### Normalisation Store



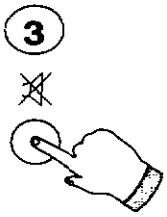
Adjust the Volume, Colour, Brightness, Contrast and Sharpness to desired viewing levels. Press N–STORE to store these levels in memory.

### Normalisation



Press to recall the levels previously set with Normalisation Store. The normalisation key has no effect when in the Dolby Surround sound menu system.

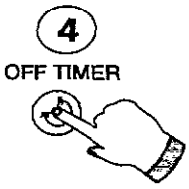
### Sound Mute

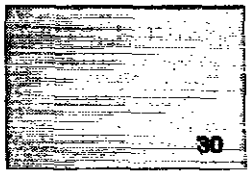


*Press to mute or restore the sound.*
Displayed as a red bar.

### Off Timer

This enables you to select the time before which the TV switches *off to the standby mode.*

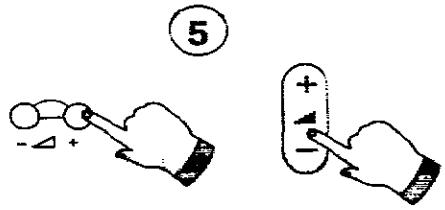



Press to select the required Off Time of 30, 60 or 90 minutes. The selected time will be displayed in the bottom right of the screen.
To cancel press until the screen shows '0'.

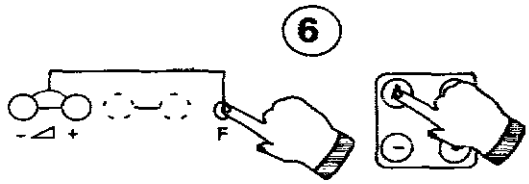
## Sound Control Functions (A)

### Volume



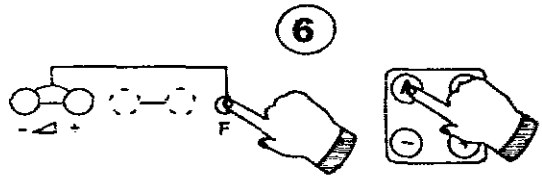
Press + or – to adjust.
Displayed as a green bar.

### Bass



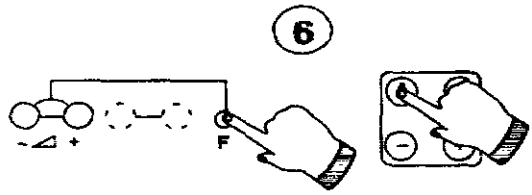
Press to select.
Press + or – to adjust.
Displayed as a green bar scale.
**Note :** Not displayed or alterable when in 2 channel Stereo speech operation.

### Treble)



Press to select.
*Press +or – to adjust.*
Displayed as a green bar scale.
**Note :** Not displayed or alterable when in 2 channel Stereo speech operation.

### Balance



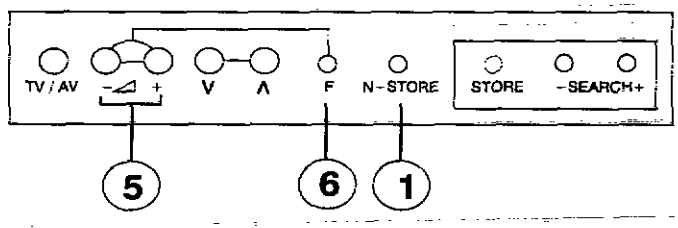
Press to select.
Press + or – to adjust.
Displayed as a green bar.
**Note :** Not displayed or alterable when in Surround operation.

**Sound Selection Sequence (A) – Remote Control Operation**

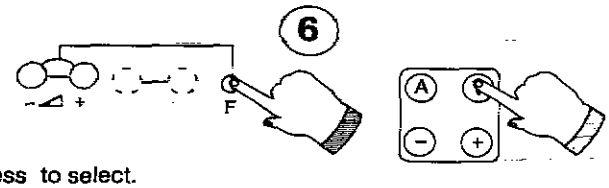
→ Bass → Treble → Balance

**Note:** Certain functions will display a coloured bar on screen for a short period of time.

## Video Control Functions (V)

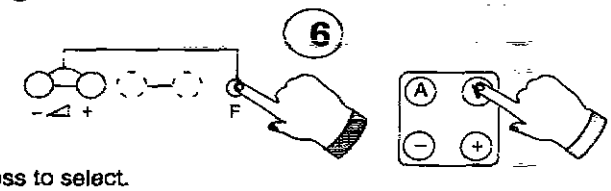



### Colour



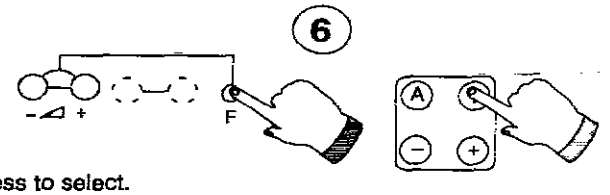

Press to select.
Press + or – to adjust.
Displayed as a red bar.

### Brightness



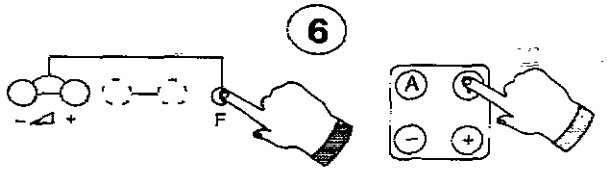

Press to select.
Press + or – to adjust.
Displayed as a white bar.

### Contrast

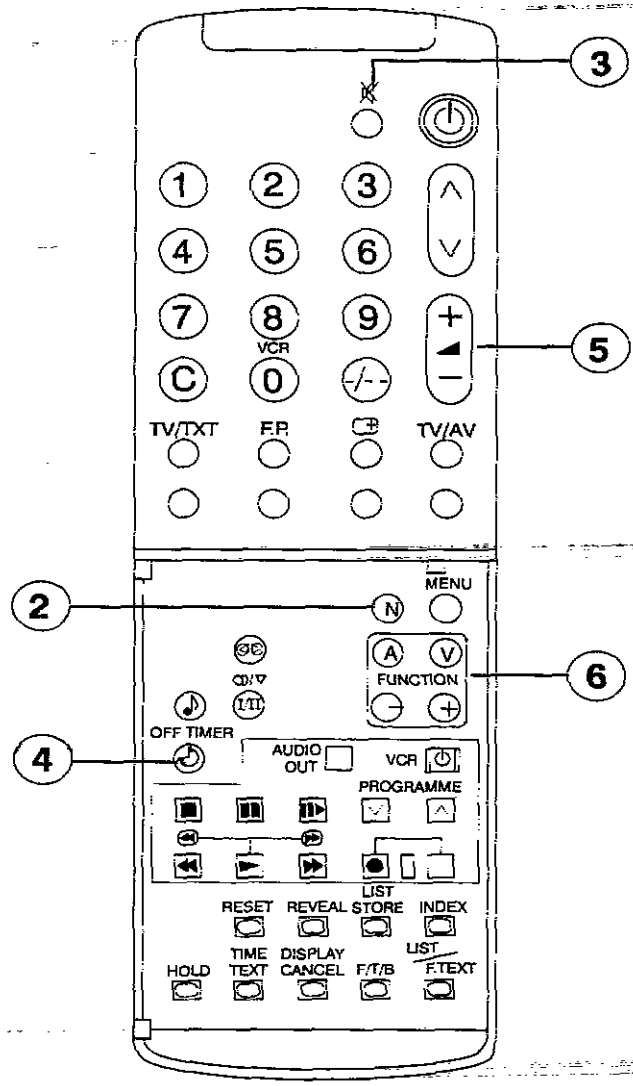



Press to select.
Press + or – to adjust.
Displayed as a cyan bar.

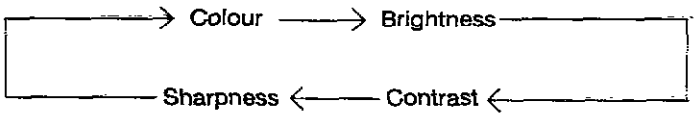
### Sharpness



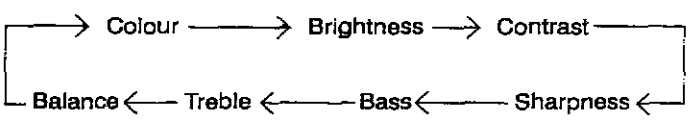

Press to select.
Press + or – to adjust.
Displayed as a green bar.



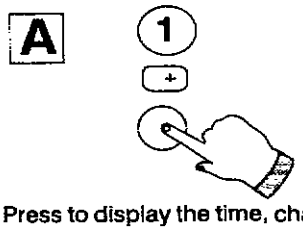

**Video Selection Sequence (V) – Remote Control Operation**

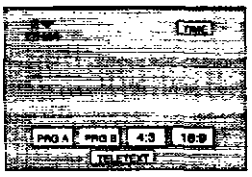



**Combined Selection Sequence (F) – TV Operation**

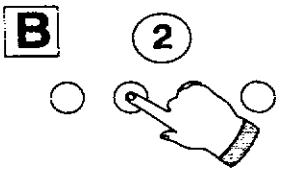


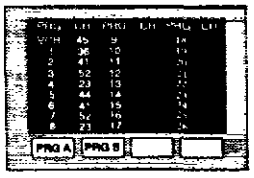
## Status / Programme Table





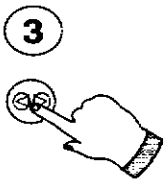
Press to display the time, channel number, programme position, Audio system and Teletext, if transmitted. The programme position and Audio system will remain on screen, press Status again to remove.
When in the Surround sound menu system, pressing the Status key changes the background to Blue from the TV picture and vice–versa.

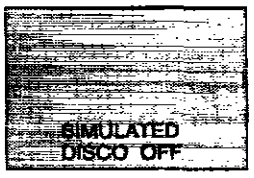




Press the RED or GREEN keys to show the Programme Tables.
The programme and channels will be displayed.
Press STATUS to return to TV mode.

## Surround On / Off

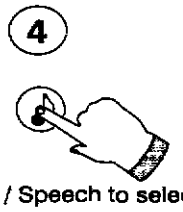





Press to switch between 2 channel Stereo and the last selected surround sound mode.
The screen will display the option set for three seconds at the bottom of the screen.

## Music / Speech
## (Only when in 2 channel stereo operation)

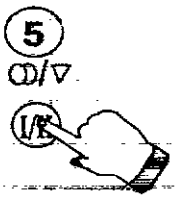
The sound can be improved during Music or Speech mode by selecting the appropriate function.



Press Music / Speech to select appropriate function.
Displayed on screen for a short period of time.

## NICAM Stereo Sound System
## (2 channel Stereo operation)

(Only when receiving NICAM sound transmissions)
NICAM is a 2 channel sound broadcast system which provides either a high quality stereo soundtrack or two independant Mono soundtracks.



**NICAM Stereo transmissions**
Press to switch between NICAM Stereo and FM Mono sound output.
The screen will display the following :

| Sound Output | Screen Display |
|---|---|
| NICAM Stereo | ⊕ |
| FM Mono | ▽ |

**NICAM Mono transmissions**
Press to switch between NICAM Mono I, NICAM Mono II and FM Mono.
The screen will display the following :

| Sound Output | Screen Display |
|---|---|
| NICAM Mono I | I |
| NICAM Mono II | II |
| FM Mono | ▽ |

**Notes :**

1. The sound outputs available are dependant upon what is transmitted on the received channel.
2. When the power is switched on, the mode is pre–set to the last memorised position.
3. If the receiving conditions deteriorate, it is advisable to switch to FM Mono mode.
4. When NICAM transmissions are not being received, the sound will be FM Mono only and there will be no screen display or selection functions.

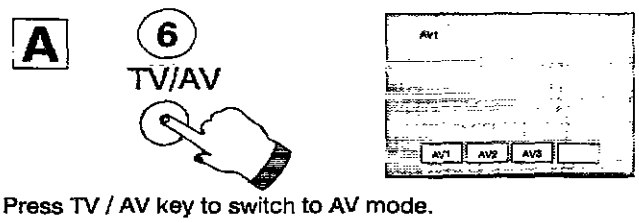
## Sleep Feature

If the set is not switched off when the TV station stops transmitting at the end of the evening, it will automatically go to standby mode after 30 minutes. This function will not operate when the TV is in AV mode.

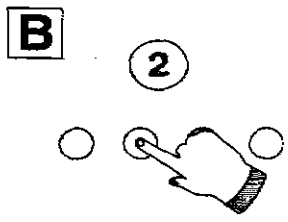
## TV / AV Selection

AV (Audio / Video) is a dedicated input and output for VCR's, Satellite receivers and other Audio/ Video equipment.

**Use this step for remote control operation**

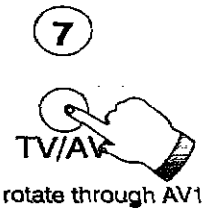



Press TV / AV key to switch to AV mode.



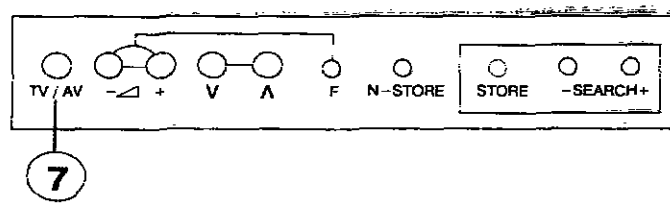

Press RED key to select AV1.
Press GREEN key to select AV2.
Press YELLOW key to select AV3.
Press TV/AV key to return to TV mode.

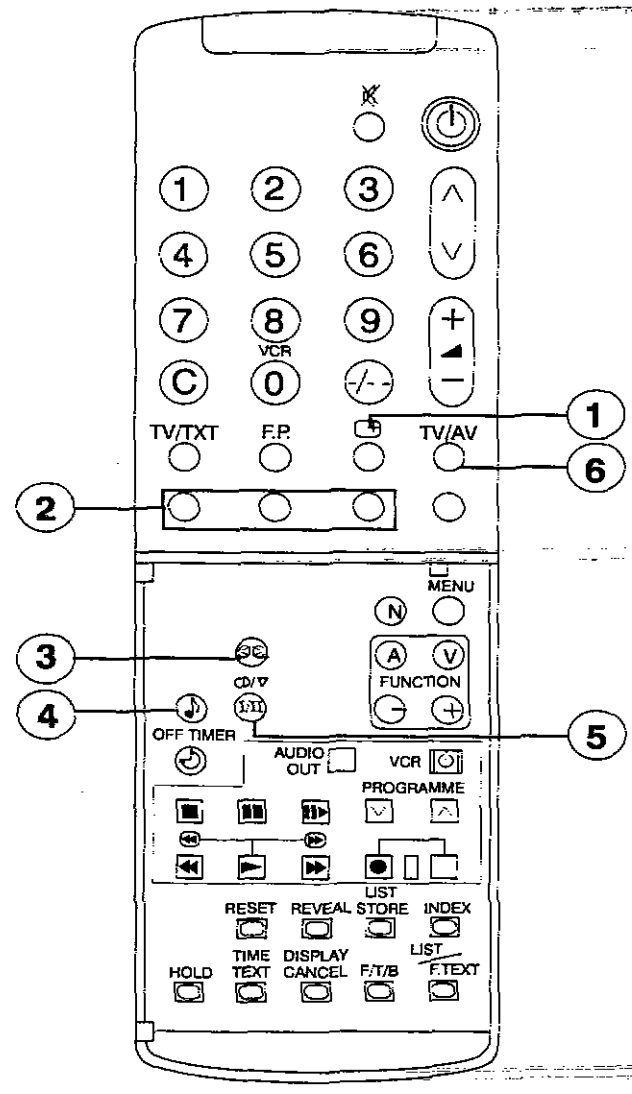
**Use this step for TV operation**




Press to rotate through AV1, AV2, AV3, and TV mode.
**Notes:**

1. Connecting a VCR to the AV1 or AV2 21 pin terminals will automatically switch the TV to AV mode when play is selected. If AV1 and AV2 are connected simultaneously, AV1 will have priority over AV2.
2. When connecting a S–Video VCR to the AV2 21 pin terminal, the S–Video switch at the rear of the TV must be in the down position, ensuring correct display of the picture.
3. If two S–Video inputs are connected via the AV2 21 pin terminal and the AV3 4 pin terminal, the AV2 input will be displayed on screen, AV3 must be selected manually to appear on screen.
4. The AV2 21 pin terminal is equipped with constant 'Monitor Out'. This means that the output from the AV2 21 pin terminal will be whatever is displayed on the screen e.g. tape playback from another source, AV1.
5. Examples of Audio / Video connections are shown on pages 24 / 25.

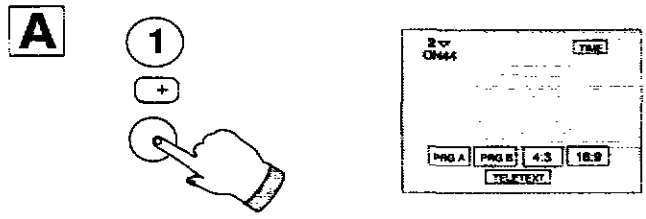


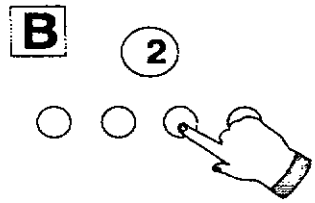
## Picture Format Selection (Aspect)

When receiving a 16:9 format signal select to obtain the correct picture height on screen.

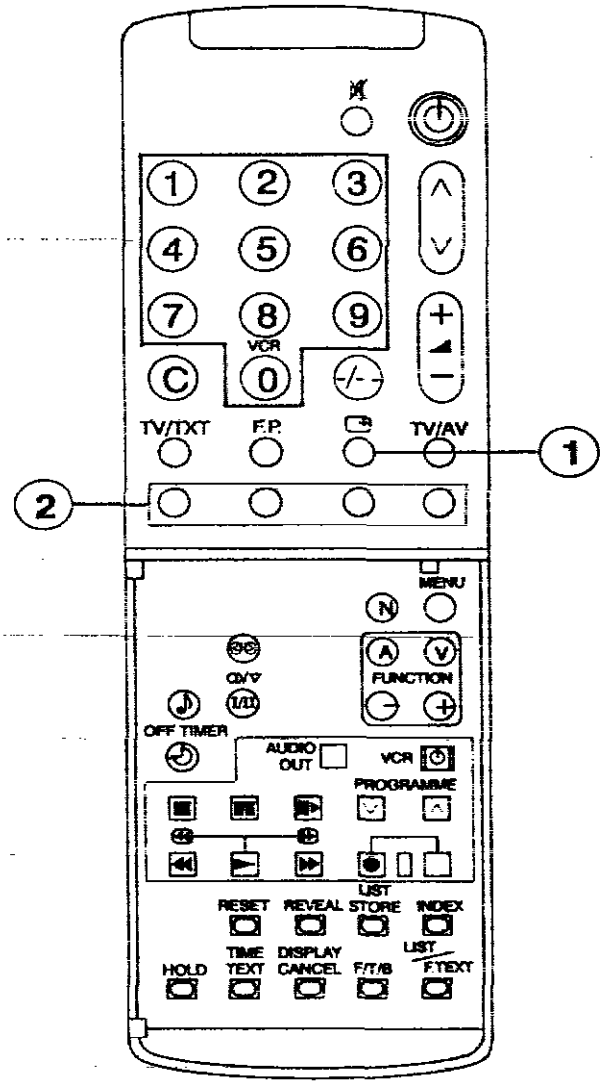
| | |
|---|---|
| 16 : 9 | Wide screen picture viewing |
| 4 : 3 | Normal picture viewing |




Press STATUS.




*Press YELLOW to select 4:3 aspect ratio.*
Press BLUE to select 16:9 aspect ratio.
**Note :** Picture format cannot be changed whilst in Teletext mode.




## Last Position Memory

Certain functions have a last position memory, i.e. the setting at the time of switch off will be the setting used when the receiver is switched on again:–

Programme
AV Position
Volume
Stereo mode
Bass
Treble
Balance
Colour
Brightness
Contrast
Sharpness
Standby
Music / Speech
Audio mode (Dolby surround)

**Shipping Condition**

This TV is preset initially to 2 channel Stereo, with the Pro Logic switch at the rear set to Phantom operation. It is recommended to connect all the speakers as described on page 14 and switch to Pro Logic mode as soon as possible to benefit from the full spatial capabilities of this system.

**What is Dolby Surround Pro Logic ?**

For over a decade, from Star Wars to Dances with Wolves, Dolby Stereo has delighted cinema audiences with multi-dimensional sound. Dolby Stereo goes beyond mere two channel stereo, so in addition to the left and right audio channels, a centre channel and rear channel are used.
The centre channel is used to sharpen sound perspective and dialogue clarity while the rear channel is used to immerse the audience in ambience and special effects.

When Dolby stereo soundtracks are made, four channels of sound are combined into two audio tracks like conventional stereo. When movies are copied onto video tape, the (encoded) sound tracks are also copied.

There are however two types of Dolby Surround decoder, one is a Dolby Surround decoder and the other a Dolby Pro Logic decoder.

The Dolby Pro Logic decoder does however generate clearer positioning of sounds and provides a full effect over a wider area of listening room. This T.V. set incorporates a Dolby Pro Logic decoder.

As well as the many film titles already available on video, there are now an increasing number of programmes being produced for television in Dolby Surround. These range from sports, dramas, talk shows and now even commercials.
**Note :** To use Dolby Surround Pro Logic when receiving television programmes that have been produced with the Dolby Surround information, you must be able to receive NICAM Stereo transmissions, if NICAM Stereo transmissions are not transmitted in your area then the Dolby Surround information will not be present and it will not be possible to use Pro Logic operation.

With Pro Logic, there are three modes of operation :

1. **Normal mode**
   The Centre channel (speakers built into the TV set) is used to localise precisely on screen sounds such as dialogue utilising the full benefits of Pro Logic operation.
2. **Cinema mode**
   As normal mode but with simulation added to the surround channel, to reproduce the effect of being in a cinema.
3. **Three channel mode**
   If the rear surround speakers are not connected, it is desirable to use this mode. The TV's speakers are used as the centre channel speaker and the left and right front surround speakers are used. The result is stereo Pro Logic Surround sound effect but without the rear surround speakers.

**What is Phantom mode ?**

Phantom mode enables full stereo sound to be heard from the internal TV speakers until such time as the external speakers are connected, the centre channel signal is re-distributed to the left and right channels and the centre internal speakers (built into the TV set) are then used to output the left and right phantom mode sound. When the external speakers are connected the rear speakers are fed with the surround signal.

**What are Simulated modes ?**

Simulated allows various types of surround effects to be produced by mimicking both the direct sound as heard by the audience and the sound reflected back from the surrounding walls, ceiling and floor in a space such as a Disco or five other performance areas.

| Setting | Effect | Appropriate sources |
|---|---|---|
| Disco | A room so full of music that it seems to engulf the listener. | Disco, Dance or Jazz music. |
| Drama | A movie theatre filled with a rich, warm sound. | TV programmes or movies with stereo sound. |
| Movie | Playback of software (films) not encoded with Dolby surround. | All movies or music software recorded without Dolby surround. |
| Church | A church hall or arena. | Classical, Rock, Pop or Folk music. Ideal for TV programmes or music video tapes. |
| Stadium | A large sports stadium packed for a live game. | Any live sports occasion. |
| Cosmos | An echo surround effect. | Video games. |

**What is Stereo mode ?**

In this mode normal two channel stereo operation is achieved, basic left and right audio output, this is the setting of the Television's Audio modes initially. Refer to NICAM Stereo Sound System explanation on page 10.

# Dolby Pro Logic Operation

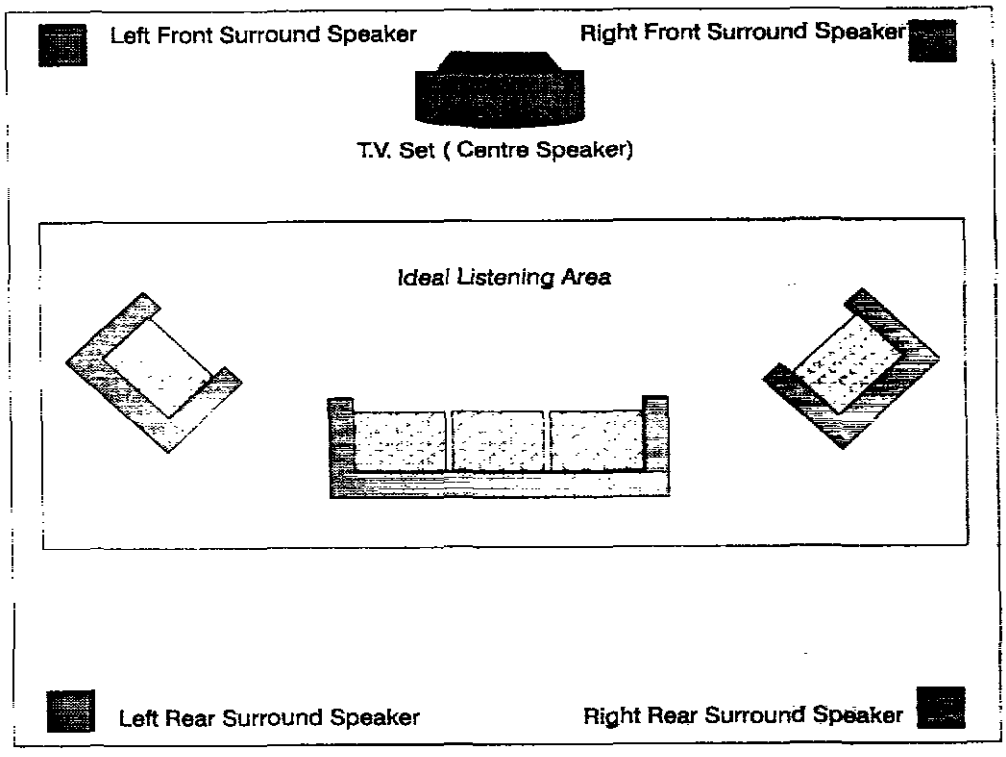
**Pro Logic / Phantom switch**

At the rear of the T.V. is located a switch for changing between Phantom mode and Pro Logic operation, the initial setting of this switch is for Phantom operation. When the surround speakers are connected to be used for normal Pro Logic operation, this switch must be moved across to the Pro Logic setting.

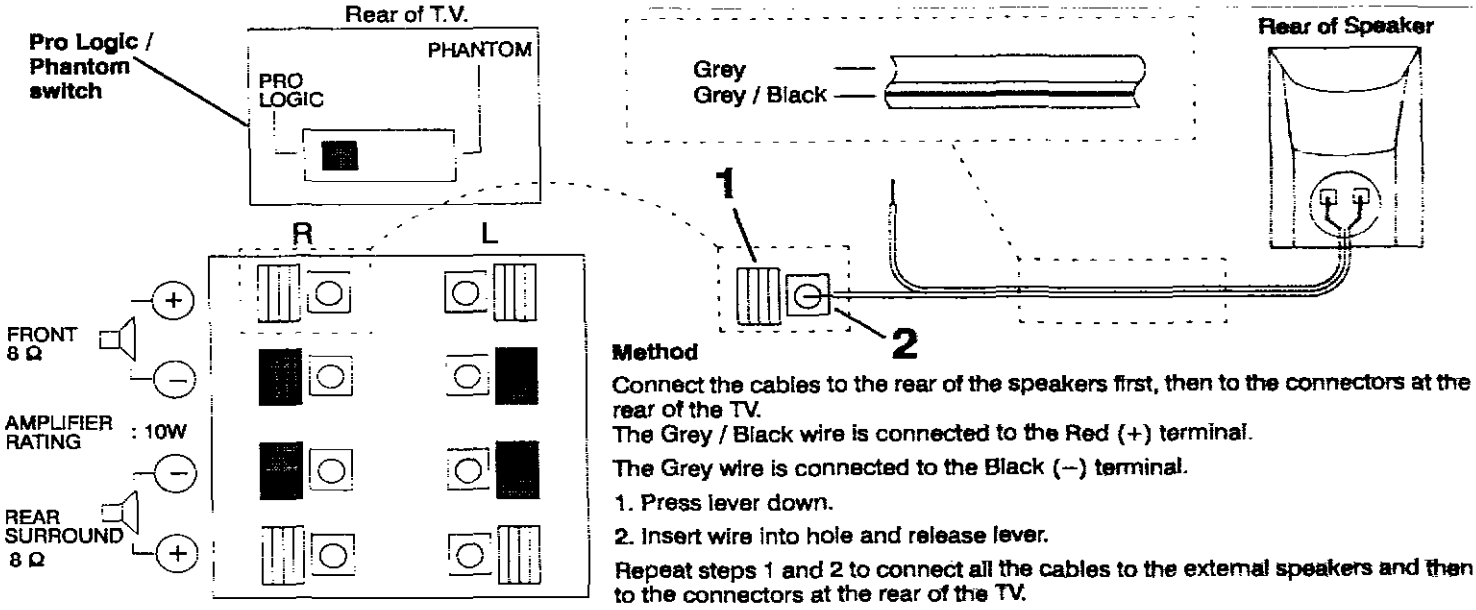
**Speakers and cables**

There are four external speakers provided, two for the front and two for the rear, identification between the two is provided by the label at the back of each speaker. The front speakers are two – way whilst the rear are one – way. Four cables are supplied for connecting the speakers to the terminals at the rear of the T.V. set.

**Suggested placement of Surround speakers**




**Connection of Speakers and cables**




**Method**

Connect the cables to the rear of the speakers first, then to the connectors at the rear of the TV.
The Grey / Black wire is connected to the Red (+) terminal.

The Grey wire is connected to the Black (–) terminal.

1. Press lever down.
2. Insert wire into hole and release lever.

Repeat steps 1 and 2 to connect all the cables to the external speakers and then to the connectors at the rear of the TV.

**Note :**

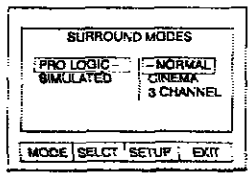
Ensure that the bare ends of the speaker cables when inserted into the holes are not capable of touching each other, thereby creating a short circuit.

**Note :** In Stereo ( two channel or headphones) operation it is not possible to select the Speaker Set–up options.

## Speaker Output Levels

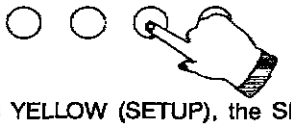
The audio output levels from the different channel options e.g Left, Right, Centre and Rear, should be altered to suit the listening position. Ensure that you are at the ideal or usual listening position before altering the Speaker Output levels or Speaker Distances.

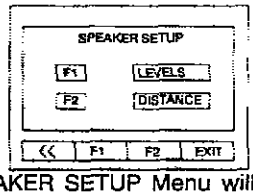
**A** ① MENU




Press the MENU key, the SURROUND MODES menu will be displayed.

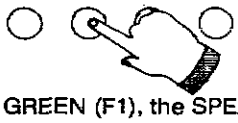
**B** ②

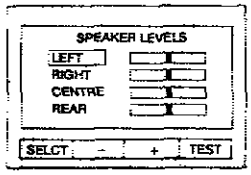





Press YELLOW (SETUP), the SPEAKER SETUP Menu will be displayed.

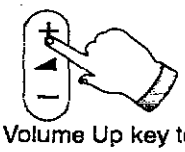
**C** ②

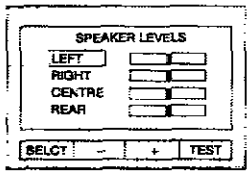





Press GREEN (F1), the SPEAKER LEVELS Menu will be displayed.
With the Pro Logic switch at the rear set to Phantom mode and with Pro Logic – Phantom or Cinema selected , only the Left, Right and Rear channels are displayed and alterable.
When in Pro Logic three channel operation only the Left, Right and Centre channels are displayed and alterable.

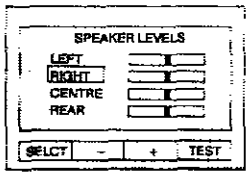
**D** ③





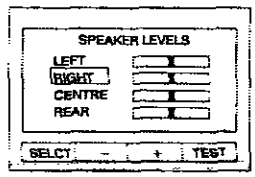

Press the Volume Up key to set the test signal to a comfortable listening level.
**OR**
Press the BLUE key to listen to the audio of the currently selected programme.

**E** ②



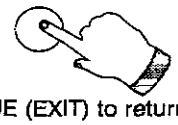

Either press RED (SELCT) to move the red box to the required channel or wait for it to automatically rotate through the channels.

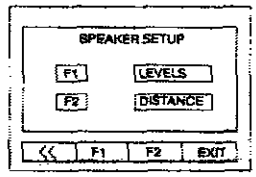
**F** ②



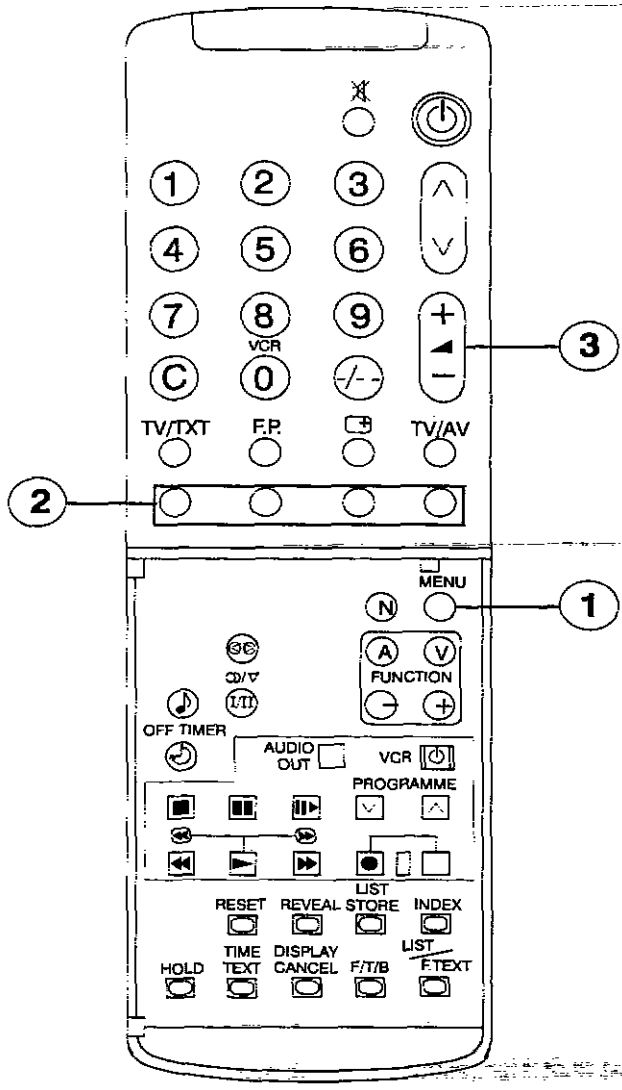

When the red box is on the required channel, press the GREEN (–) or YELLOW (+) to adjust the sound level as required.
**Note :** If the volume level was increased to a higher setting, it is advisable to reduce it before exiting the SPEAKER LEVELS Menu.

**G** ① MENU






Press BLUE (EXIT) to return to TV operation.
**OR**
Press the MENU key to return to the SPEAKER SETUP Menu.



## Speaker Distance

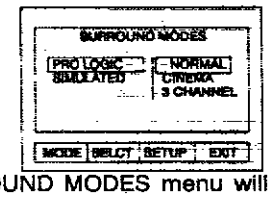
The distance from the listening position to the Left / Right / Centre and Rear surround speakers is set using the Speaker Distance Menu.

If the distances are not correctly set and the rear surround speakers are nearer to you than the centre (Internal) speakers, you may hear "leakage" of the dialogue from the rear surround speakers.

To prevent this, the speaker distance menu allows a delaying of the signal to the surround channel, making them seem further away than they actually are, so allowing the dialogue from the centre (Internal) speakers to be heard first.

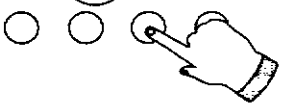
**Note :** In Pro Logic 3 channel operation the Speaker Distance's are not selectable, only the Left / Right and Centre speakers are used.

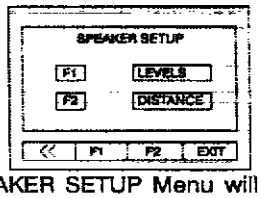
**A** 1 MENU




Press the MENU key, the SURROUND MODES menu will be displayed.

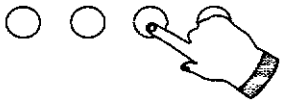
**B** 2

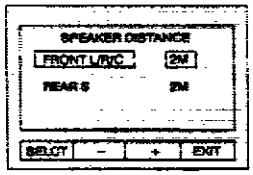





Press YELLOW (SETUP), the SPEAKER SETUP Menu will be displayed.

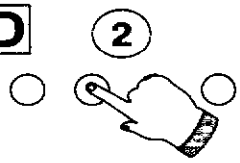
**C** 2

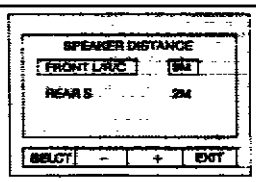





Press YELLOW (F2), the SPEAKER DISTANCE Menu will be displayed.

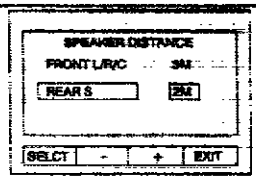
**D** 2





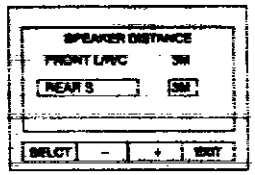

Press the GREEN (–) or YELLOW (+) to adjust the Front channel (L / R / C) to the distance from the front speakers to the listening position in metres (from 1 metre to 8 metres).

**E** 2



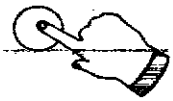

Press RED (SELCT) to move to the Rear channel (S).

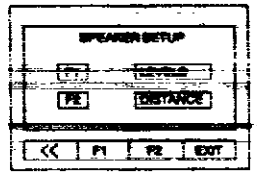
**F** 2




Press the GREEN (–) or YELLOW (+) to adjust the Rear channel (S) to the distance from the rear speakers to the listening position in metres (from 1 metre to 8 metres).

**G** 1 MENU






Press BLUE (EXIT) to return to TV operation.

**OR**

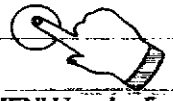
Press the MENU key to return to the SPEAKER SETUP Menu.

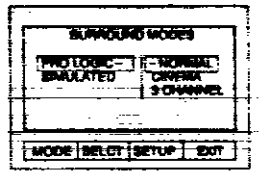
## Dolby Pro Logic Operation

Use Pro Logic operation for videos, laser discs and television programmes bearing the Dolby Surround logo :

DOLBY SURROUND

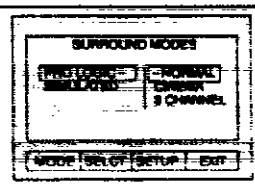
**A** 1 MENU





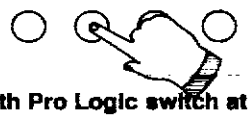

Press the MENU key to display the SURROUND MODES menu.

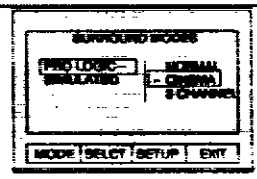
**B** 2




Press RED (MODE) key to select PRO LOGIC.

**C** 2

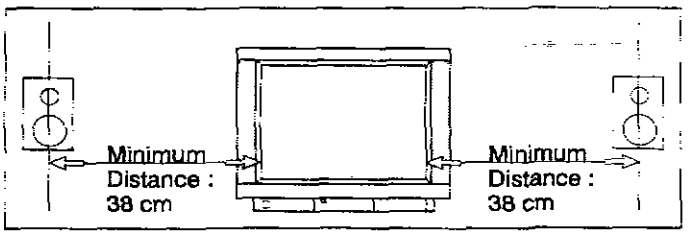


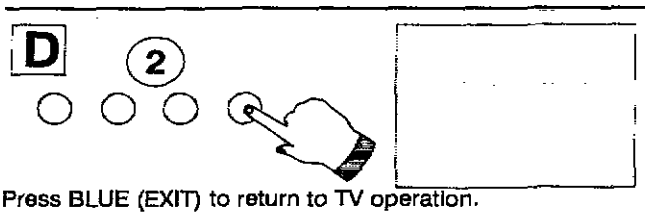



**With Pro Logic switch at rear set to Phantom setting.**
Press GREEN (SELCT) key to select PHANTOM or CINEMA operation.

**With Pro Logic switch at rear set to Pro Logic setting.**
Press GREEN (SELCT) key to select NORMAL, CINEMA or 3 CHANNEL operation.

For 3 channel operation the front external speakers should be placed at a minimum distance away from the viewing screen of the television as shown in the following diagram.



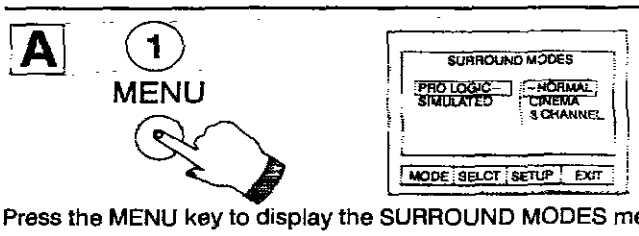

Press BLUE (EXIT) to return to TV operation.

**OR**

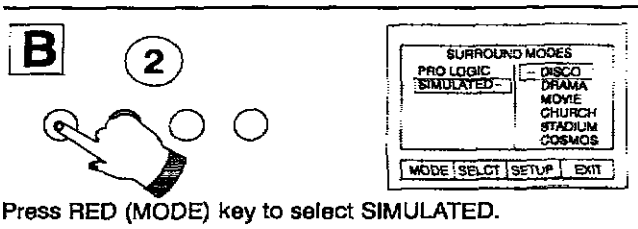
The Menu will automatically disappear after ten seconds.

## Simulated Mode Operation

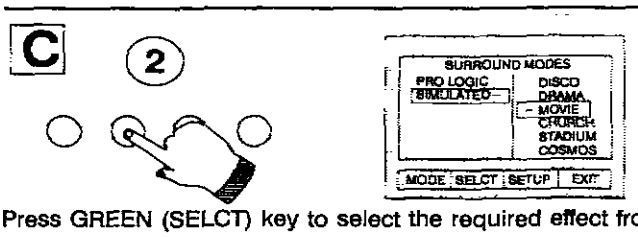
Provides six sound effects that can be used to reproduce the different atmosphere of each one.



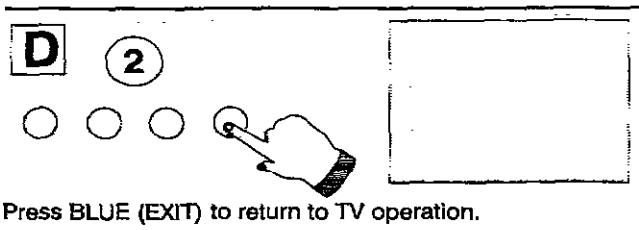

Press the MENU key to display the SURROUND MODES menu.




Press RED (MODE) key to select SIMULATED.



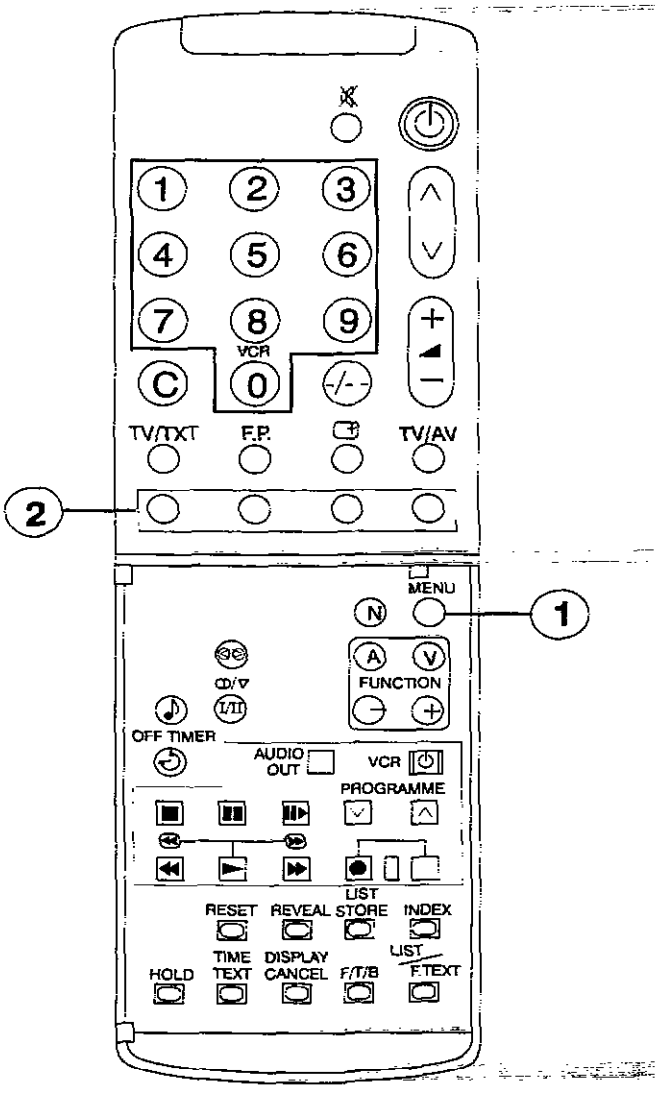

Press GREEN (SELCT) key to select the required effect from : Disco, Drama, Movie, Church, Stadium or Cosmos.




Press BLUE (EXIT) to return to TV operation.

**OR**

The Menu will automatically disappear after ten seconds.



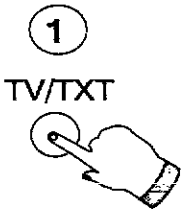
# Teletext Operation

## Introduction

Teletext is the broadcasting of pages of information on your T.V. screen containing such subjects as News, Sport, Weather, Travel and T.V. guides. All Teletext features are operated via the Remote Control.

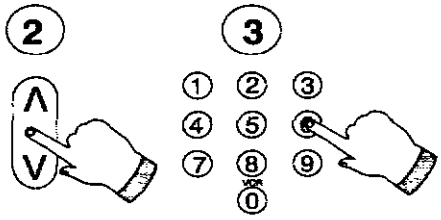
1. Teletext is only available if the channel selected is transmitting Teletext.
2. Teletext features may vary depending on the Broadcasting Companies.

## TV / Teletext mode




Press the TV/TXT key.
The screen will display a Teletext page.
*Press again when you wish to return to TV. mode.*

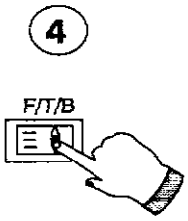
## Page Selection




Pages can be selected in two ways :

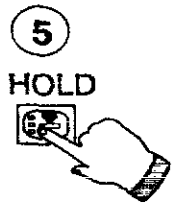
a. Press the Up / Down keys to increase or decrease the page number by one.
b. By entering the page number, using 0 –9 on the remote control.

## Full / Top / Bottom




Press to expand the TOP half of the page.
Press again to expand the BOTTOM half.
Press again to return to normal (FULL) size.

## Hold

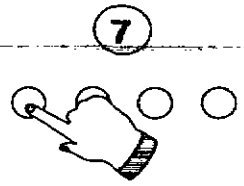



Press to hold the current page.
Press again to cancel the hold.

## Reveal

Press to reveal hidden words e.g. quiz page answers.
Press again to hide.

## Red / Green / Yellow / Blue keys




In FASTEXT mode these correspond to the differently coloured subjects.
In LIST mode they correspond to the differently coloured page numbers.

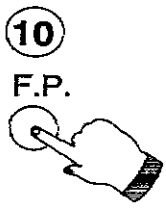
## List / F.text

Press to change from FASTEXT mode to LIST mode and vice versa.
In FASTEXT mode four differently coloured subjects are displayed at the bottom of the page. Press the appropriate coloured key to access more information about one of these subjects.

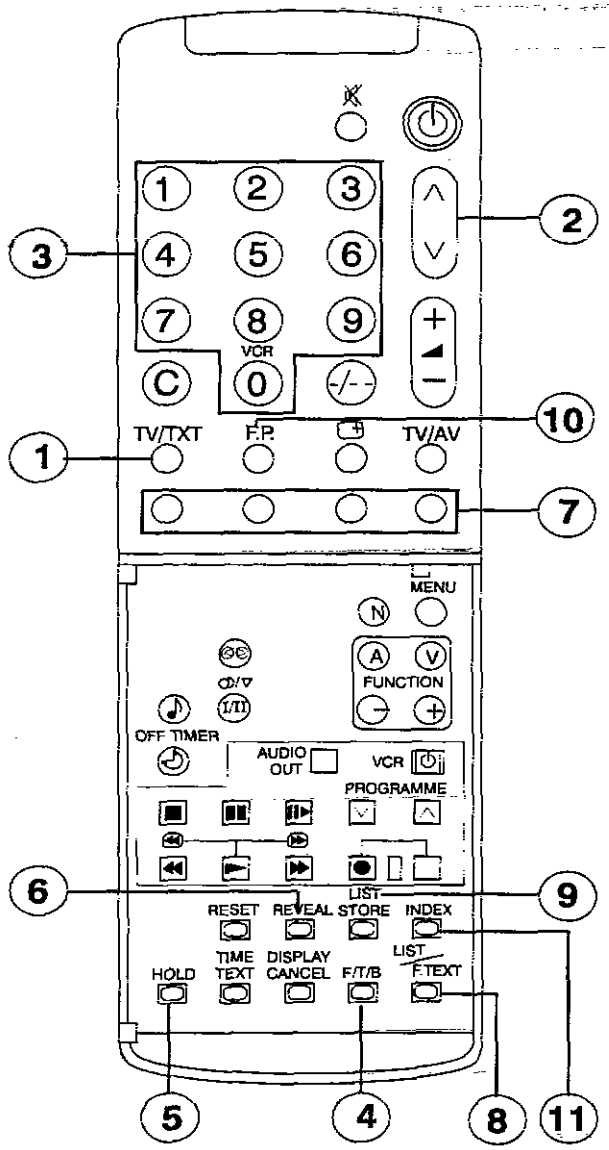
## List Store

In LIST mode the four page numbers can be altered for channel positions 1 – 10 only.
To do this, press one of the coloured keys and enter the new page number.
Press and hold List Store, the page numbers will change colour.

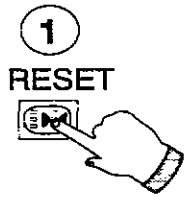
## Favourite Page (F.P.)




This feature will store a favourite page number in the TV memory and will be instantly recalled when pressed. To store such a page number, the TV must be in LIST mode, and the programme position must be from 1 – 10.
Press the BLUE key, select the page number, then press LIST STORE. The page number is now stored.
Press F.P. to recall this page number.
**Note :** Depending on the transmission sequence, when the F.P. key is pressed, the contents of the favourite page may take some time to appear. Only the page number is stored, not it's contents.



## Reset

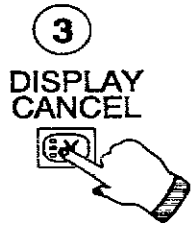



Press in FASTEXT mode to reset to the initial index page.
Press in LIST mode to reset to the RED coloured page.

## Index

Press in FASTEXT mode to return to the main index page.
Depending on the way information is transmitted, this may have to be pressed more than once to return to the main index page.

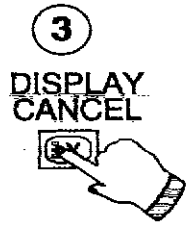
## Display Cancel




Press to view the TV. whilst searching for a Teletext page. When the page is found, the screen will display the FND symbol at the top left.
Press TV / TXT twice to view the page.
Press TV / TXT again to return to normal TV. operation.

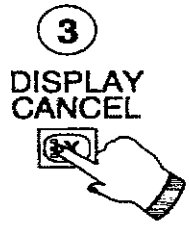
**Note :** It is not possible to change the programme position when in News flash or Update mode.

### News Flash




Press when a news flash page has been selected to view the TV.
When an update of the news flash is received, it will be superimposed over the TV. picture.
Press again to remove updated news.
Press TV / TXT to return to normal TV. operation.

### Update

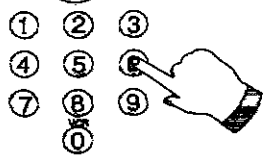



Press to see the update of information on certain pages.
When an update is received, the UPD symbol will be displayed at the top left of the screen.
Press TV / TXT twice to view the page.
Press TV / TXT again to return to normal TV. operation.

## Sub Coded Page Access

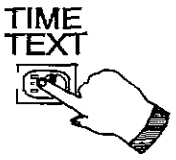
When teletext information exceeds more than one page, it may take some time for the automatic changing of the sub pages to reach the sub page you require. It is possible to enter your required sub page and continue watching the normal programme until the correct sub page is found.

**A** (4)



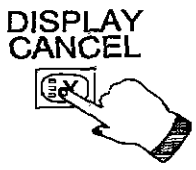
Select the required page number using keys 0 – 9.

**B** (5)



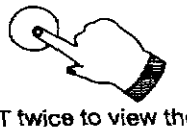

Press TIME TEXT, T**** will be displayed (top left of screen).
Enter desired sub page number before the T**** disappears.
To select page 6 enter 0, 0, 0 and 6.
If in LIST mode, a 'T' will appear in the current box at the bottom.

**C** (3)




Press DISPLAY CANCEL to view a normal TV programme. The FND symbol will be displayed when the page is available.

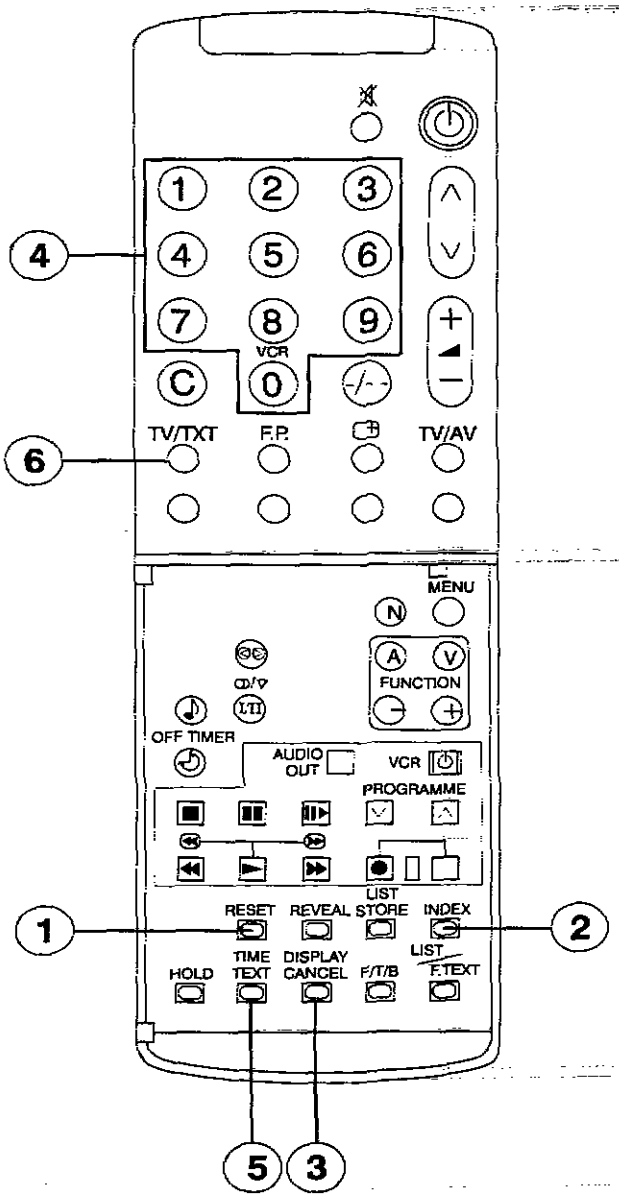
**D** (6)




Press TV / TXT twice to view the page.
To clear the page perform one of the following :

1. Press RESET to return to the main index page.
2. Select a new page number.
3. Press TV/TXT to return to normal TV operation.

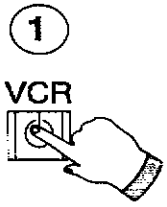
**Note :**
It is not possible to select another programme during Sub Coded Page Access.



## VCR Operation

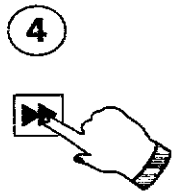
The Remote Control is capable of operating some functions of selected Panasonic VCR's, please consult you dealer for details. Some VCR's have different functions, so to ensure compatibility, please refer to the VCR instruction book.

### Standby



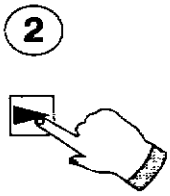

Press to switch the VCR to standby mode. Press again to switch back on.

### Fast Forward / Cue



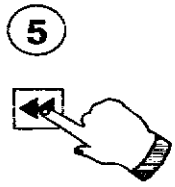

Press to fast forward the tape. In Play mode, press to view the picture rapidly forward.

### Play



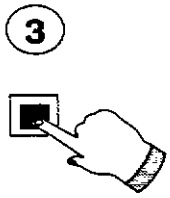

Press to playback the tape.

### Rewind / Review



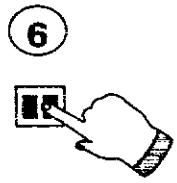

Press to rewind the tape. In Play mode, press to view the picture in reverse rapidly.

### Stop



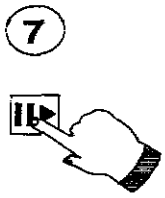

Press to stop the tape.

### Pause / Still



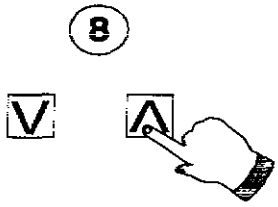

Press in playback mode, the picture will pause.

## Still Advance



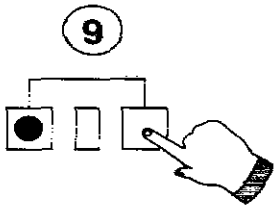
While in PAUSE / STILL mode, press to advance the picture one frame at a time.

## Programme Up / Down



Press to increase or decrease the VCR programme position by one.

## Record

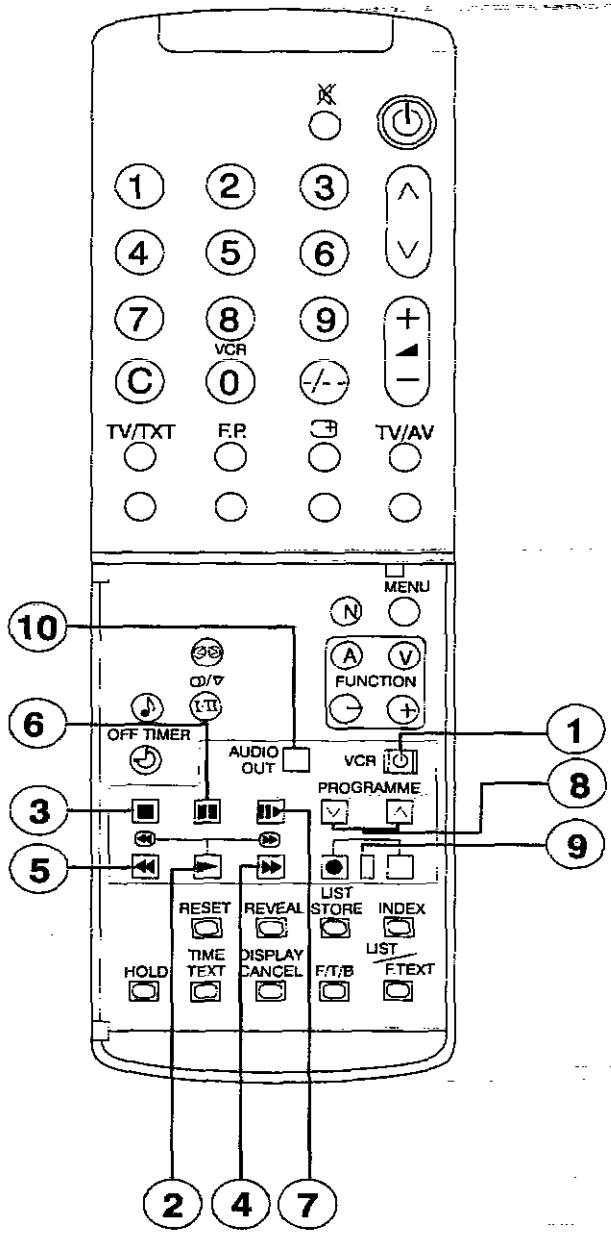


Press these together to record.

## Audio Out Selection

If a Stereo Hi-Fi VCR is connected to this TV. press this key to select the sound output required.

**Note :**
If any difficulty is encountered when using this remote control with Panasonic video tape recorders please check the operation of the video recorder with the operating switch set at position one and again with the switch set at position two.

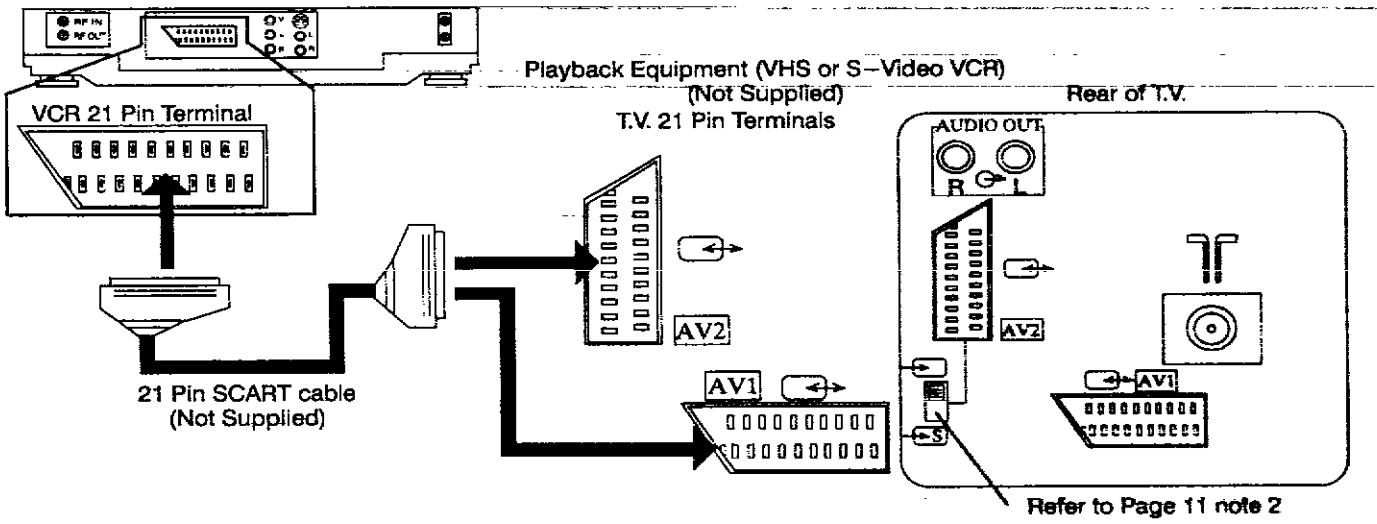


## Audio / Video (AV) Connections

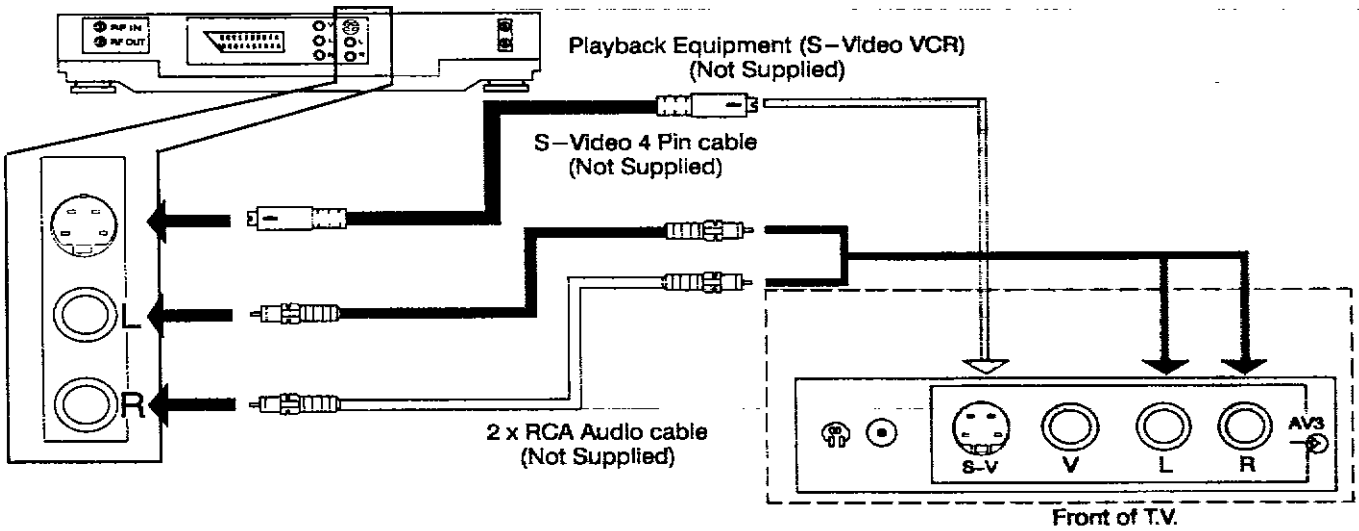
### Via the 21 Pin (SCART) terminals

**Notes :**

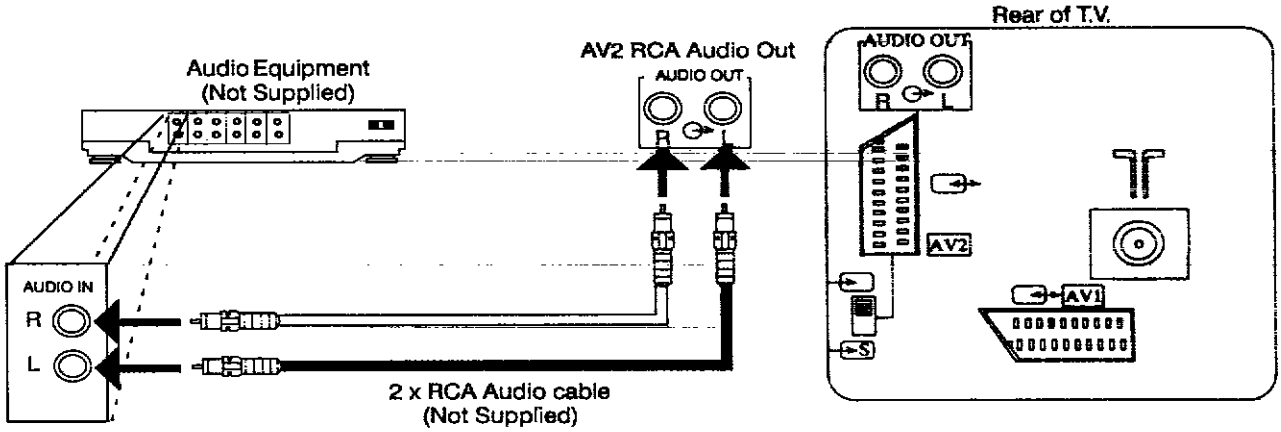
1. To connect a VHS VCR use the AV1 21 pin terminal.
2. To connect an S–Video VCR use the AV2 S–Video 21 pin terminal.



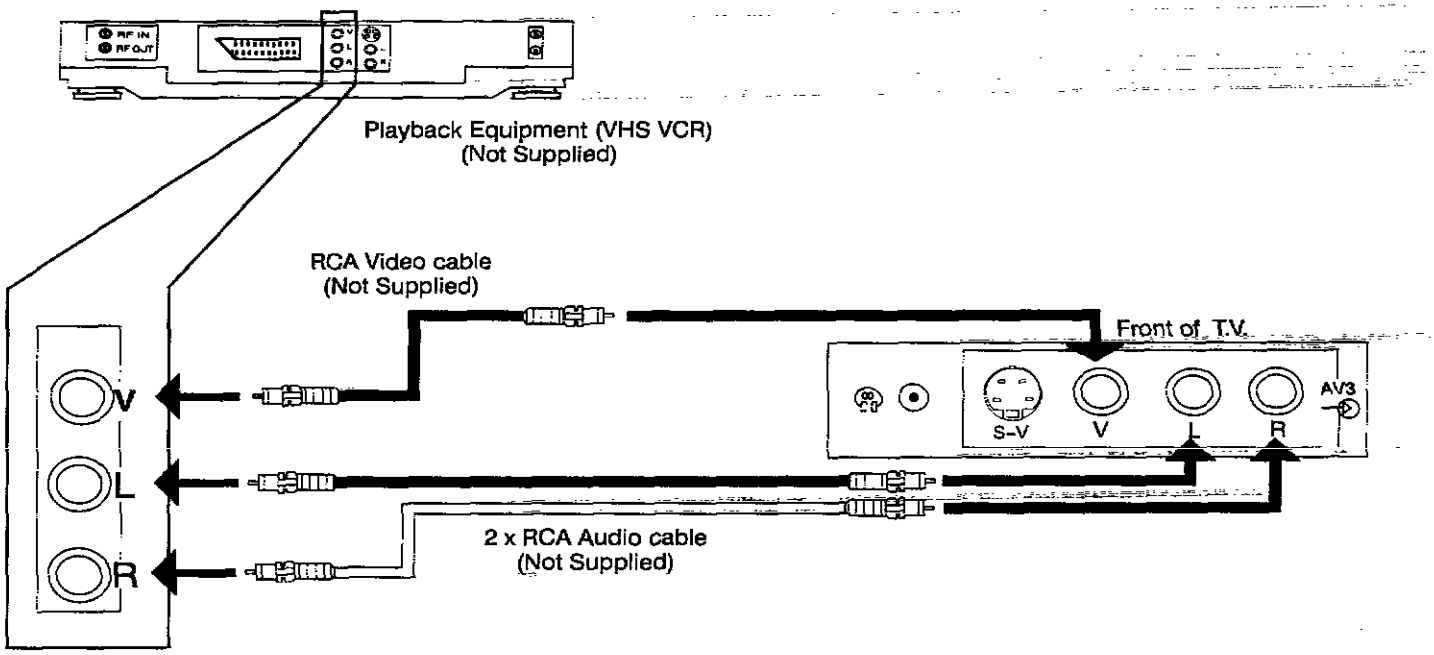

### Via the AV3 4 Pin S–Video and RCA Audio terminals



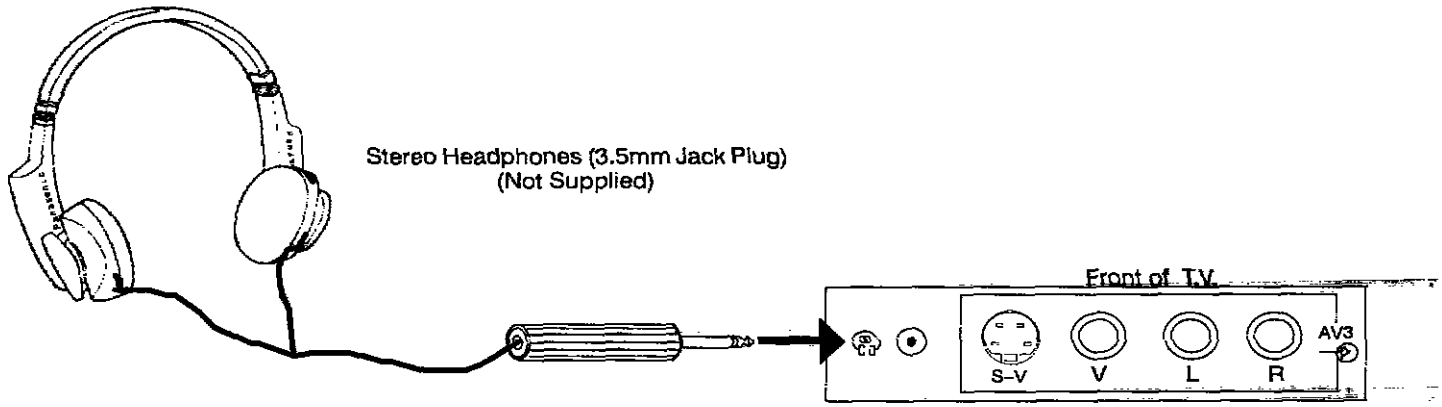

### Via the rear AV2 RCA Audio Out terminals



## Via the front AV3 Video and Audio (RCA) terminals




## Headphones Terminal




**Notes :**

1. Cables shown are not supplied with this T.V. set.
2. Do not connect a computer with TTL output (5V) to this set.
3. The AV1 and AV2 21 pin terminals can also be used as Outputs to Audio / Video Equipment.
4. For headphones operation, 2 channel stereo must be selected, the internal and external speakers will be automatically disconnected while the headphones are connected.

## Trouble–shooting

Before calling for service, determine the symptoms and make a few simple checks as shown below.

| Symptoms | | Checks |
|---|---|---|
| Picture | Sound | |
| Snowy Picture | Noisy Sound | Aerial location, direction or connection |
| Multiple Images | Normal Sound | Aerial location, direction or connection |
| Interference | Noisy Sound | Electrical appliances<br>Cars / Motorcycles<br>Fluorescent lights |
| Normal Picture | No Sound | Volume level, Sound muted |
| No Picture | No Sound | Not plugged into A.C. outlet<br>Not switched on<br>Picture / Sound controls set at minimum levels<br>Check if in standby mode |
| No Colour | Normal Sound | Colour controls set at minimum levels |
| Poor or Distorted Picture | Weak or No Sound | Retune Channel(s) |
| Coloured Patches | Normal Sound | Magnetic Interference from unshielded equipment<br>Receiver moved while switched ON, switch TV off for 30 minutes. |

## Specifications

| | |
|---|---|
| **Power Source** | 220V – 240V 50Hz A.C. |
| **Power Consumption**<br>**TX–28X1DP**<br>**TX–25X1DP** | <br>143 W<br>138 W |
| **Picture Tube**<br>**TX–28X1DP**<br>**TX–25X1DP** | <br>66cm V FST 110°<br>59cm V FST 110° |
| **Audio Output** | 6 x 10W Music |
| **Dimensions**<br>**TX–28X1DP**<br>**TX–25X1DP** | **H W D**<br>551 x 686 x 489mm<br>507 x 635 x 467mm |
| **Weight**<br>**TX–28X1DP**<br>**TX–25X1DP** | <br>38.5 kg<br>33 kg |

| | |
|---|---|
| **Receiving Systems** | PAL – I (UHF)<br>PAL – 60 |
| **Connections** | |
| **Aerial** | (Rear of T.V.)<br>(UHF Only) |
| **Headphones** | (Front of T.V.) |
| **AV1** | 21 pin terminal<br>(Audio / Video in / out)<br>(RGB in) |
| **AV2** | 21 pin terminal<br>( Audio / Video in / out )<br>(S–Video in)<br>2 x RCA Audio out |
| **AV3** | S–Video 4 pin terminal<br>2 x RCA Audio in<br>1 x RCA Video in |
| **External Speakers** | 4 x 8Ω speakers<br>Right front<br>Left front<br>Right rear surround<br>Left rear surround |

**Note :** Specifications are subject to change without notice. Weight and dimensions shown are approximate.

## General Information

### Service

Before requesting service, please refer to the trouble–shooting guide on page 26 to determine the symptoms. To obtain service please contact your local Panasonic dealer quoting the model number and serial number (both are located at the rear of the TV).

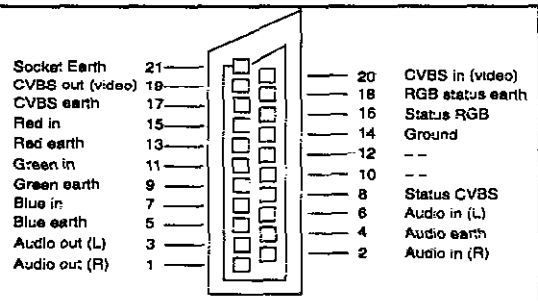
### TV. Games / Home Computers

Extended use of TV games or home computers with any television set can cause a permanent 'shadow' on the screen. This type of irreversible picture tube damage, can be limited by observing the following points :

1. Reduce the brightness and contrast levels to a minimum viewing level.
2. Do not operate the television set for a continuous period of time while using TV games or home computers.

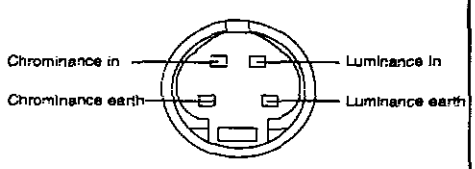
This type of picture tube damage, is not an operating defect, and as such is not covered by the Panasonic warranty.

### Audio / Video 21 pin and S–Video 4 pin terminal specifications




**Note :** The AV2 21 pin terminal has the following differences from the AV1 21 pin terminal :–

| | | |
|---|---|---|
| PIN 7 | – | No connection |
| PIN 11 | – | No connection |
| PIN 15 | – | S.C – In |
| PIN 16 | – | No connection |
| PIN 20 | – | CVBS in (S–Y in) |




**Note :** Pins 15 and 20 of the AV2 21 pin terminal are dependant on AV2 S–Video / VIDEO switching.

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## Notes